

## The Ferromagnetic Behavior of Mn-doped Nanowires

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Mn-doped GaN nanowires have been successfully prepared. Mn doped GaN nanowires have mainly single-crystal hexagonal structure, containing up to 1.5at.% Mn. I-V characteristic has been investigated. The Mn-doped GaN nanowires reveal a weak n-type property in comparison with undoped GaN nanowires. The electrical resistance R-T measurement was firstly reported. The resistance decreases with decreasing temperatures from 325K to 210K. The nanowires have apparent ferromagnetism and Curie temperature is above 500K.

Mn-doped ZnO nanowires have been successfully synthesized by a vapor phase transport method at 700°C. The Mn content of the Zn<sub>1-x</sub>Mn<sub>x</sub>O nanowires can reach up to 28at. %. SQUID measurements demonstrate that the Zn<sub>1-x</sub>Mn<sub>x</sub>O nanowires have ferromagnetic orderings not only at low temperature but also around room temperature. The magnetization decreases as the Mn content increases. The ferromagnetism at room temperature is possibly due to the codoping of Fe and Mn into ZnO.

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